OHIO CULTIVATOR.

A Semi-Monthly Journal of Agriculture and Horticulture.

VOL. 3. COLUMBUS, OHIO, DECEMBER 15, 1847. NO. 24.

OHIO CULTIVATOR.

(Published on the 1st, and 15th, of each Month.)

M. B. BATEHAM,
EDITOR AND PROPRIETOR.

TERMS:

Single Subscriptions, or any number less than four, One Dollar each per year. Four copies, ordered at one time, (they need not be to one address,) Three Dollars, and at the same rate (*seventy-five cents each*) for any larger number—payments in all cases to accompany the orders.

No subscriptions received for less than one year, and all must commence with the first number of a volume.

Letters enclosing current bills, in accordance with the foregoing erms, may be sent at the expense and risk of the publisher.

Address M. B. BATEHAM, Columbus, O.

Close of the Volume.

Readers! our labors for this year are closed. With this number we present you the *index* for the third volume of the Cultivator. We ask you to examine it and recall to mind the muititude of topics that have been discussed, and the amount of information that has been communicated; then say whether we have fulfilled our duty to you, and whether it is our fault if you have not been benefitted thereby many times the amount which our paper cost you for the year—to say nothing of the value of the complete volume, which we suppose you now have on hand, as a repository for future reference.

If these questions are answered in the affirmative; and if you believe our labors are calculated to accomplish a useful purpose in community, (not otherwise,) we ask you to continue to support us in this enterprise—to renew your own subscriptions promptly, and speak a word for us to such of your neighbors as may not be familiar with our objects.

To the friends of improvement who have heretofore so nobly aided us in this way, we say, PERSEVERE in your endeavors to arouse the sluggish minds of neighbors.—Much good has been done in this way during these *three* years, and every year will show increasing progress.—"In due time ye shall reap if ye faint not."

☞*Remember our terms*—the cash system—pay in advance—is the best in the long run, both for publisher and readers. Send names and payment promptly, then there will be no stoppage of the paper.

☞ See Prospectus for notice of Premiums, &c.

Fayette County Ag. Fair.

Mr. Bateham:—Our County Fair was held on the 6th and 7th of October. It was well attended on both days, and much interest was manifested by those present. The stock of all kinds was of superior quality, and respectable in quantity. The mechanic arts and domestic manufactures also made a good display; and along with the specimens of their handiwork the *ladies* gave their presence, contributing much to the beauty and hiliarity of the Fair, and rendering it an occasion of agreeable recreation, as well as instruction.

Premium Crops.—Of corn, there was raised by S. Dille, 135 bushels on one acre. By John Dewitte, 270 bushels on two acres—(or same rate as Mr. Dille.) Of wheat Noah Strickle raised 32 bushes on one acre; and S. Dille raised 56 bushels on two acres and seven rods. Particulars at another time. J. T. P.

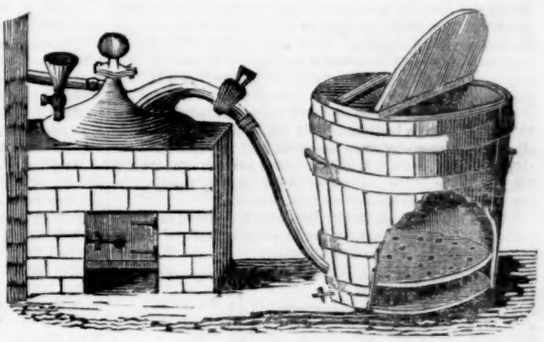
Clark and Madison Ag. Society.

The annual Fair of the Clark and Madison Agricultural Society, was held at South Charleston on the 7th and 8th of October. The report in county paper says:—"The live stock exhibited was in greater number and of a more superior quality than formerly. A large concourse of people was in attendance.

The second day's exhibition was also quite encouraging when compared with former exhibitions. The ladies the present year have done the society a distinguished honor by their presence and superior productions."

The Society offered premiums to the amount of $291—awarded $183. Balance in treasury $185,55.

Science in Farming.—Skill adds more to the profits of farming than hard work. In the article of butter, for instance, the same outlay is required, or nearly the same, to make a hundred pounds of poor butter, as would be required to make a hundred pounds of that which is good. But when the articles are marketed there may be five or six dollars of clear extra profit in the pocket of the skillful dairyman. The importance of scientific farming is realized by those who have found such benefit as is noted above in nearly every part of their labor.—*Ex.*



Dr. Beecher says:—Never chase a lie.—Let it alone, and it will run itself to death. I can work out a good character much faster than any one can lie me out of it.

☞ The report of the Ohio Fruit Convention is in the hands of the printers, but a press of other business occasions some delay.

Sowing Osage Orange Seed.

Editor Ohio Cultivator.

Sir:—In your paper of Nov. 1st, under the head of "Osage Orange for Hedges" you request those of your readers who have succeeded in causing the seed of this plant to vegetate freely without being frozen, to inform you of their management.

The seed of the Osage Orange, as well as those of the Peach, Plum, Pear, Apple, &c., do not require the influence of frost to cause vegetation as some suppose. All that is necessasy, is to keep them moist from the time they are taken from the fruit, or to render them entirely so at a proper season for planting.

Last spring I planted a quantity of the seed of the Osage Orange, and my plan succeeded so completely, that I comply with your request. The seeds being perfectly dry, I placed a quart of them in a tin vessel and covered them with *warm* water, (not boiling,) where they remained *five* or *six days*, subject to the temperature of the kitchen; the water was then turned off, and were then placed in an out-house for three or four days longer, and occasionaliy stirred, until it was discovered that the seeds were quite soft, and the germ had considerably swelled. The ground was thoroughly prepared, and the seed dropped in drills of one inch deep, and about the same distance apart. These were covered by a man following and with both hands filling the drills and forming a ridge over the seed, one inch above the common level. In doing this there are several advantages, viz: Should the weather prove dry, this ridge protects the seed from its influence; or should rains follow, it prevents the earth from becoming compact, and forming a crust, which often prevents tender plants from forcing their way through. When I discovered the seeds had generally sprouted I took a fine rake and carefully removed the ridge, leaving the ground *light* and *clean* The young plants were up in about a week from the time of planting.

The seeds were planted about the last of April or the first of May. I should have perferred plantiug a month earlier.

The plants are now from 8 to 24 inches high. The land naturally good, but now much exhausted by constant cultivation. No manure was used.

We should be pleased to learn the height of your plants.

[From 10 to 30 inches.—Ed.]

When a large quantity of seed is to be prepared, care should be taken, when the water is turned off, that they do not remain too thick in the vessel, or too long without stirring; lest so high a degree of fermentation should take place as to destroy their vitality.

From the open nature of the Osage hedge, compared with most plants used for that purposes, und the long reaching tendency of their roots, will enable them to withstand our dry hot summers and hence, will probably form *the* hedge plant of America.

Very respectably, &c., H. P. Byram.

Oakland garden and nurseries, near Louisville.

Nov. 27, 1847.

☞ Will Mr. Neff be so good as to inform us what success his agents had with the Osage Orange seed that he sent to Illinois—and what was the mode of sowing, &c.?

☞ Look out for the next number of the Ohio Cultivator; it will be the best ever issued!

Steamer for Cooking Food.

Inquiry has been made in our columns, for a plan of an economical and efficient apparatus for cooking food, (for hogs, &c.,) by steam. Various plans for this purpose have been devised, and recommended in the eastern papers; but as far as we have observed or been able to learn, few of them have been found to give entire satisfaction to those who have put them in use. It appears too, that the advantages of cooking food for animals have in some cases been over estimated, at least when reference is had to a country like this, where grain and other food is much cheaper in comparison with labor than in most other countries. We need to learn the results of more experiments and calculations on this point, bofore we shall be prepared to recommend to our western readers the general adoption of any mode of cooking for animals. Some of our readers we know are already convinced that the practice would prove advantageous to them. This we think highly probable with certain kinds of food, as potatoes, &c.; and for the benefit of such we give the best information we posseas or can obtain, in regard to the mode of constructing the apparatus.

Cooking food by *steam* has several important advantages over the old method by *boiling;* but we are doubtful whether it will be found more economical in regard to fuel, unless the *boiler* is constructed in such a manner as to generate steam more readily than can be done with a simple kettle or cauldron where only a small surface is exposed to the fire. This is the only objection we discover to the plan represented in the annexed engraving, which is taken from a European work, we believe. Our plan would be to construct a boiler somewhat on the plan of those used for steam engines, (but smaller and rather more simple,) in which the water is made to surround the fire, and steam is generated rapidly with the least amount of fuel. Boilers of this kind are now made in New York city, expressly for this purpose, and for use in kitchens of large hotels, &c. We do not know the cost, but they are of course too expensive for ordinary farmers.

The following remarks in reference to the plan of steamer above represented, and cooking food generally, are taken from the American Agriculturist:

If food is to be cooked, on a small scale, boiling may be cheapest; if on a large scale; steaming is not only cheapest, but infinitely more compact; for the former would require a very large, or several furnaces, for different sets of kettles, whereas, the latter may be done with one small furnace, steamer, and pipe, as shown in the cut, with any reasonable number of vats or tubs surrounding, in which to steam the food. In order to do this, the steam pipe must be made moveable, with a screw, flexible, or be composed of some material that when the food is cooked in one tub, the pipe can be turned and inserted into another. We have seen no less than five tubs, holding 150 gallons each, surrounding a small steamer, all of which could be filled with food and cooked within twenty-four hours.—Three tubs, however, are usually sufficient for a large stock, in which the food of the first may be cooking, that in the second cooling, while that in the third is being fed

out. A single person may be able to oversee, and efficiently manage all these operations.

The furnace, steamer, and tub, are so plainly delineated in the annexed cut, that they need no explanation.—In cooking potatoes and other roots, the tub should have a false bottom as represented,) perforated with numerous small holes, and set resting on blocks from 3 to 4 inches above the true bottom. The steam-pipe should enter the tub nearest to the true bottom. The steam is thus introduced between the two bottoms, quickly rises upward, and is evenly diffused through the whole of the food.—While the cooking process is going on, the top of the tub should be kept down as tight as possible, so as to prevent the escape of any steam. In cooking grain or meal, the false bottom must be taken out and the tub filled with water, as the steam heats the water and brings it to a boiling point as readily as a blaze or hot coals around a kettle.

Steaming is said to do its work more thoroughly than boiling, as it is so insinuating, it easily enters and bursts all the minute globules in the grain and vegetables. Be this as it may, certain it is, that either process renders the food more digestible, and easier assimilated by the absorbing vessels, and therefore more economical.

The following table in the Edinburgh Journal of Agriculture, shows very nearly the increase of bulk of different kinds of grain boiled to bursting:

4 measures of oats increased to			7 measures.	
4	"	barley "	10	"
4	"	Indian corn increased to	13	"
4	"	wheat "	10	"
4	"	rye "	15	"
4	"	beans "	8½	"
4	"	buckwheat or bran	14	"

Boiled food, especially in winter, is much more nutritious, if fed as nearly blood warm as possible. If quite cold, or above all, if in the least degree frozen, we doubt whether it is so beneficial as if uncooked—grain and meal we are certain are not; for animals will eat the raw, cold, more greedily than they will the cooked. Stock fed upon cooked food will eat more of it than if uncooked, and lie quicker to rest. Of course all this is better for them, as they will thrive faster, look finer, and do more work. It is particularly beneficial to give hard-working horses or oxen, just as much wholesome cooked food, as they can eat, soon after coming in at night. Toiling all day in the open air, man appreciates and knows well the benefit of a warm, hearty supper. Let him remember, then, that a warm mess and abundance of it, is equally beneficial to the animals which a kind Providence has given him as efficient aids in his arduous labor. If southern planters also would give their mules cooked instead of raw food, at noon and night, we are persuaded it would put an end to the cholic, so often destructive among them. Cooking would also considerably economize the food.

Letter from Mr. Sawyier.

New arrival of choice Sheep—Injury done by Dogs.

Cincinnati, Nov. 29, 1847.

M. B. Pateham, Esq.—My flock of Gaudaloupe Merinos of about 200, which I before mentioned to you as on the way from New England, arrived at my Wahoo farm about a month since, in good condition considering the journey traveled, upwards of 1000 miles. I had them started from New Hampshire on the 30th of August, and came on to Saratoga, New York, in season to enter at the New York State Agricultural Fair, six bucks and six ewes, as competitors for the premiums on fine wooled sheep. This I was desirous of doing to test the merits of my stock in so large a field as that exhibition embraced. In its proclamation there was included not only the Empire State of N. York, but all the surrounding States, viz: of New England, New Jersey, Pennsylvania and Ohio. The examination by the able board was a thorough one, and they awarded me the premium, both for the bucks and the ewes.

These sheep were drove on foot all the way, and must of course be somewhat reduced; but should I succeed in getting them well through the winter, I consider they will be a great acquisition both to my flock and the wool growing interest in this State, and the west. One of the bucks, among the number exhibited at Saratoga, Salisbury, has at a clipping (one years' growth only) cut 12 pounds of wool, washed on his back; another of them, King Phillip, 10½ pounds. They are covered all over with wool except on the face.

The wool on the belly is about as long as on the back, and there is but little difference in the quality of wool on the different parts of the animal. These animals are very compact and finely built, and posses great vigor of constitution.

I exhibited at Charleston, at the District Fair of Clark and Madison counties, some of my Guadaloupe stock, and obtained the premium on a buck called Saragossa.

My stock of sheep are in a fine state of health, and I find no difficulty in wool growing but in the *depredation of dogs;*—with this I am *sorely afflicted.* I presume I have had more than three hundred killed, including what Sawyier and Morris lost on the farm before I took the exclusive charge of it, in March last. I have now more or less killed every week. They are caught by the throat—a hole is tore near the flank into the intestines, and more or less of one ham is eaten off. The dogs never again return to the carcass. I have offered a reward of $20 to any person who will destroy the animal which is preying upon my flock.

The wool market, the situation of our country, and the world, hold out *strong* inducements to the farmer to embark in wool growing; but *the dogs*—a voracious army of hungry *dogs* surround the flocks, and are continually preying upon them. This frightens the farmer, and deters him from embarking in this useful and lucrative branch of Agriculture. *How much longer will our Honorable Legislators* love dogs *more than* sheep?

I do hope our Legislature, at the ensuing session, will take this *important* subject into *serious* consideration, and devise some relief from this great evil. I fear the Legislature have not heretofore realized the *present* extent of that branch of agriculture in Ohio, and the extent to which it might be augmented! The present is but a drop in the bucket. I wish the Board of Agriculture would take some means to ascertain the amount of the last year's clip of wool in the State.

As I have before suggested, I think I have demonstrated by actual experiment, that the Champain lands thro' the centre of this State, are of the best kind for wool growing; they are easily brought into use, and nothing does this so soon as sheep; they also more rapidly enrich the soil than any other stock. Besides the barrens and prairie lands in this State, there is a large extent of timbered land in the north-western quarter of it, which will be well adapted to that branch of agriculture.

The present extent of this branch of agriculture, and the extent to which it might be carried, together with other cogent arguments which might be adduced, make out a strong case in favor of protection. There are a good many farmers who are detered from going into this business on account of these depredations. I wish my brother farmers in the different parts of the State, who, like myself, are suffering under this scourge, would speak out upon the subject. Very respectfully, &c.,

Nath. Sawyier.

In Defence of the Dogs.

We have so frequently published accounts of the injuries done by dogs in the destruction of the sheep, and given so many arguments in favor of imposing a tax on dogs or adopting some other measures for reducing their numbers, that many of our readers in sheep farming districts feel a degree of surprise that no measures of the kind have been enforced by the Legislature. But such readers only look at one side of the question; and in order to afford them an opportunity of hearing the other side, we insert the following communication. We do not attach much weight to the arguments it contains; but it gives a fair exhibition of the kind of feeling that prevails on the subject in very many parts of the State. Of course if any law were to be passed of the kind contemplated, it need not apply to such counties as Lawrence; or any parts of the State, where wild game is more plenty than sheep, and where the farmers are so poor as to be obliged to use dogs for *fences.*—Ed.

Hear the other side—More about Dogs.

Mr. Bateham—Though not a subscriber, I am an occasional reader of your paper. I am not much of a believer in "Book Farming," especially when I see so many attacks upon the old respectable way of farming. And one particular objection I have to your paper, is, the frequent and unmanly attacks of your correspondents upon that most useful domestic animal, the dog. I scarcely ever get sight of your paper, without finding a complaint of that sort, or a proposition to tax all the dogs in the State; with innumerable assrtions of their uselessness &c.

Now, sir, I thought the value of a good dog had been so long known, that no person who valued his reputation, would dare to decry them. One thing is certain, no candidate for office in this county would dare hint such a thing as taxing dogs, or make any move towards diminishing their number. Why, he would be denounced as an *abolitionist* at once, and he would stand no more chance for an office than an anti-slavery lecturer. No, sir; I would set him down as the blackest abolitionist in the State. No, sir, the whole world is filled with the history of good dogs, and he who can't appreciate it, has lost all claims to benevolence. I lay it down as a rule, that a man who would mistreat his dog, *would abuse his wife.*

An old neighbor of mine, who kept six dogs, and hunted a great deal, (and he was a poor man too, with a large family of children) used to say, "that the reason people did not keep more dogs, was because they were too stingy to feed them, and too lazy to hunt." The old man was a close observer of human nature, and I believe spoke truth.

To say nothing of the usefulness of dogs about the premises, in keeping off chickens, hogs, &c., from the house and garden, and keeping cattle out of the fields where the fences are poor, there are a great many farmers and others in this county, who get considerable part of their living by hunting with their gun and dogs.—Many men whose farms are too poor, or have not a sufficient quantity cleared, to support their families, take their gun and dogs, while their crops are growing, and go off into the woods, and kill game for food, which sometimes save much expense and trouble in raising hogs and cattle. And in the winter, after their crops are gathered, and they have nothing else to do,they are sometimes gone for weeks, and return well loaded with venison and other meat; to gladden the hearts of their hungry wives and children; and skins to furnish a covering for their bare feet. Then it is, Mr. Editor, there is a scene of feasting and of joy. It would rejoice your heart, to go into one of these families after such a hunt; and see the affectionate old dog stretched before the fire, gnawing his bone, and wagging his tail with heart-felt satisfaction.

I could state a good many facts and arguments to prove the value of the dog; and if you publish this, I may write more upon the subject. I have only time now to state one thing more, and you may rely upon it as true: A neighbor of mine, some years ago, who was a poor man, indeed, not able to clothe his children comfortably, was carrying on a farm. His fences were very poor, and he being a poor man, and most of the time away from home, was unable to make them good. The consequence was, his neighbors cattle and hogs were constantly getting into his corn and wheatfields, meadows, &c. He kept two large dogs, and with these his children, without his aid, could generally keep his fields pretty well cleared of intruders; and I believe it was acknowledged by all, that his crops; poor as they were, produced more than four fold above what they would have done but for the dogs. Now I ask, ought this poor man to be taxed for keeping these dogs? Shall the poor man be burdened with taxes for these comforts, while the rich man rolls in his wealth and "fares sumptuously every day?" Let your dog-hating correspondents answer me this question if they can, and I am ready to meet them "shoulder to shoulder, and steel to steel." Yours Respectfully,

Horace R. Pancake.

Fayette township, Lawrence county, Ohio, 1847.

From the American Farmer.

Hints for the Season

Winter Ploughing.—As all stiff clays are improved by being ploughed in time to subject them to the meliorating influence of frost. we would advise all who may have such soils intended for spring culture, to seize every opportunity through the winter to get them ploughed, and to recollect that it is their interest to plough them as deep as a strong team will enable them to do ; that in ploughing they should see the work is well done, no balks left, that the furrow slice be so turned as to present the greatest possible surface to be operated upon by the frost, and that the ploughing be *not* done when the ground is *wet,*—as clay soil when turned up in such state becomes a bed of *mortar,* whose condition cannot be improved during the entire ensuing season.

Fattening of Hogs.—As it is an acknowledged fact that swine fatten much quicker in mild than in cold weather, the process of feeding should be pushed forward with all possible despatch, so that the work may be accomplished in good time. The theorist says that a portion of the food given to hogs in very cold weather goes to supply *heat* to his body, and that such portion is abstracted from that which should go to form flesh and fat, and that consequently it takes more grain to fatten them in very cold than it does in moderate weather—the practical man knows that they do fatten faster in mild weather; without inquiry into the why and the wherefore. So then, as we have practice sustaining theory as to the results, all should act upon the fact.

Regularity in feeding is essential. Swine should receive three meals a day at appointed hours ; they should be watered twice a day, have clean bedding and a warm dry place to retire and sleep in, they should be salted at least twice a week, have a *rubbing post* in the yard of their pen, and be provided with an abundance of rough materials to manufacture into manure, as weeds, mould and leaves from the woods, dirt of any kind, cornstalks, and anything else to be scraped together. They should always have in a trough accessible to them either rotten wood or lumps of charcoal to correct the acidity of their stomachs. If they appear costive or otherwise unwell, let a feed of cut up roots be substituted for the corn, taking care to dust them with about a table-spoonful of flour of sulphur to each hog.

Breeding Sows and Store Pigs.—As soon as the woods cease to furnish these with full meals, let them be provided with dry pens to retire at pleasure, provide these with bedding, and see that they are adequately fed at least twice a day, not forgetting to give them plenty of raw material to work into manure for you. In-pigs sows should be fed so as to be kept in good condition *without being made fat,* as a condition of over fatness never fails to increase their difficulties in pigging. When heavy in pig each sow should, if possible, be kept by herself.

Milch Cows.—Those who may desire their milch cows to furnish them supplies of milk, cream, and butter, must provide them with nourishing slops, fodder and hay; as dry provender alone, and that of the coarsest kind, is but an indifferent substance to excite the milk vessel into action. The secretion of that delicious fluid can-

not be advantageously carried on unless the cows be generously fed. In the latter case they never fail to repay their provider in a grateful measure. Warm dry lodging and clean bedding are great helpers to the cow in her efforts to fill the udder.

Firewood.—As there can be no comfort about a man's house without good fires, see, without further delay, that a supply for a year is cut down, drawn home and piled up convenient before bad weather sets in. By timely attention to this duty you will save much labor to your teams and greatly promote the economy of your household, besides enjoying the consolation of feeling that you had discharged an important duty to those who justly looked up to you for support.

Water-furrows—Examine your grain fields and relieve the water-furrows therein of all obstructions. Repeat the operation every few weeks.

Accumulation of Manures.—Let us conjure you by every consideration that should effectively operate, to go to work assiduously and accumulate materials to make manure. In making your selection of substances, recollect, that anything which once had life contains the principles which sustain the living plant, and that these when spread on the cow-yard or pig-sty, or when composted with earth of any kind will make good manure. If you have a marsh, the mud and roots thereform may be made worth more to you than a gold mine. Muck from the marsh in the proportion of 3 loads to one of horse dung or barn-yard manure, if composted together now, will, in the spring, be worth as much as an improver of the soil as so many loads of stable manure. If you have no stable or barn yard manure to spare for this purpose, 5 loads of marsh muck mixed with 15 bushels of lime or 8 bushels of unslacked ashes will make an equally good manure.

Botany for Farmers.

"AGRICULTURAL BOTANY:—an enumeration and description of useful plants and weeds which merit the notice or require the attention of the American Agriculturist. By Wm. DARLINGTON, M. D.—p. 270.

We are indebted to the author for a copy of this work, and from a pretty thorough examination, as well as from the well known character and talent of the writer, we do not hesitate to award to it our unqualified commendation. It is a work that has long been needed by those young men who are desirous of becomming intellectual, and in some degree scientific farmers; and it should be introduced and studied in all the *schools* of our land, where boys are expected to be taught any thing more than the rudiments of our language. The design of the author in preparing it, was simply to do good—to assist in elevating the profession of agriculture—not to make the work a source of profit; hence he gave the manuscript to the publishers without any compensation or reward. The following extracts from the preface will more fully set forth the authors design; and contains sentiments worthy of the pen of DR. DARLINGTON.

AGRICULTURE, in a broad and legitimate sense, being a comprehensive system of Natural Science—involving more especially a practical acquaintance with the useful portion of the Vegetable Creation,—I have long thought it due to the Profession, and desirable in every point of view, that the young Farmers of the United States should acquire an exact knowledge of the Plants which it immediately concerns them to know; and that they should be enabled to designate, and treat of them, with the precision and methodical perspicuity which belong to scientific language and arrangement. Under this impression, and in the hope of promoting an object deemed so important, the present work has been compiled. In submitting it to those for whom it is more particularly intended, I am not unaware that its technical features are ill-suited to the notions of many plodding disciples of the old school of Agriculture, who despise every form of knowledge derivable from *Books*,—and whose ideas never stay beyond the manual operations of the field and the barn-yard. It is scarcely probable, indeed, that any written treatise—though couched in the most familiar dialect—would obviate the objections, or conciliate the prejudices, of such antiquated tillers of the soil. My views, therefore, have not been directed to that unpromising quarter. I address myself to the youthful and aspiring Agriculturists of our country, who seek to elevate their noble Profession to its just rank among human pursuits,—and who feel that the exercise of *intellect*, as well as of muscle, is indispensable to the accomplishment of their purpose. * * * * *

The study of BOTANY, in its widest sense—comprising, as it does, the entire vegetable creation,—will ever have its select votaries in those who can appreciate its manifold charms, and find their reward in the pleasures incident to the pursuit: But when regarded in a more limited and practical point of view, it may fairly challenge the attention even of the most inveterate *Utilitarians*. There are *three* aspects, or relations of the science, in which its importance will scarcely be denied by the most penurious calculator of economical values: namely, 1. *Agricultural Botany*,—2. *Medical Botany*,—and 3. *Artistical Botany*, or the history of those plants which are employed, or afford materials, in the processes of the Arts and Manufactures. The *Medical* branch of the science has been often treated of, with something like system, by the Professional writers of Europe and America. The other two divisions less frequently, and with less method, in various Agricultural Journals, Cyclopaedias, and Mercantile Dictionaries. The attempt here made, is an Essay on the *Agricultural* branch,—or a systematic description of those Plants (both useful and pernicious which were immediately interest *American Farmers*—especially those in the middle States of this Confederacy. The *Botany of the Arts*, whenever undertaken, will afford a highly interesting theme for some future laborer in this elegant department of Natural History.

In my humble opinion, no Education can be deemed sufficient, without some acquaintance with the rudiments, or first principles, of Botanical Science—some rational knowledge of the vast and multiform creation around us, known as the Vegetable Kingdom. I consider such knowluedge just as indispensable to a rightly instructed people, as any of the usual elementary branches of school learning. By this, however, I do not mean the smattering of a few obsolete terms, unconnected with any available ideas—which, in too many instances, passes under the imposing name of "BOTANY"; but I do mean, that thorough conception of the general nature and relations of Plants, which may be acquired by the aid of such works as the *Botanical Text-Book* of Prof. A. GRAY. In all other employments, it is very properly expected that a workman shall not only be expert in the manipulations of his art, but shall also be well acquainted with the nature of his materials: and I can perceive no good reason why it is not equally incumbent on a practical farmer to understand the true character of those plants, which it is his especial interest to cultivate or to extirpate.

If our American Youths, who are being educated with a view to Agricultural pursuits, were thoroughly instructed in the admirable *Text-Book* above referred to,—and were then required to make themselves botanically acquainted with that portion of the vegetable kingdom which actually demands their attention, on the farm,—the profession would speedily assume a new and engaging aspect. The labors of the field would be blended with the contemplation of facts and phenomena of the deepest interest to inquiring minds,—and *Agriculture*—instead of being shunned as an irksome drudgery—would be justly esteemed as one of the noblest employments of a free and intellectual people.

If the present Essay may in any degree tend to promote that auspicious result, the Author will derive a sincere gratification from the belief, that the time and attention devoted to its preparation have not been wholly misapplied.

Education---"The Farmer's College."

The following extracts are from a circular published last winter by the Directors of "FARMERS COLLEGE" in Hamilton county, setting forth the peculiar features, the origin, object and progress of that institution:

The genius of our Free Institutions demands the education of the whole mass of the people. Give the people knowledge, make them virtuous, if you would make imperishable our Temple of Freedom, our fortress of strength, and our source of prosperity, is a national sentiment more universal than any other. Hence the great efforts that have been made for the establishment and improvement of our Common School system, and for the endowment of our numerous Colleges and Universities. But after all that has been done, our system of education is still very imperfect. Between our Common Schools on the one hand, and our regular Colleges on the other, there is an intermedium of great importance to our industrial, commercial, and social relations almost entirely neglected, which needs to be supplied. The Common Schools stop far short of the kind of training necessary for that comprehensive view of intelligent industry which the greatest general good demands. They do but little to elevate the various departments of physical labor, (and above all the pursuit of agriculture,) to their proper dignity. We must therefore look to institutions of a much higher grade than Common Schools to remedy this evil. Shall we turn to our regular Colleges? Do they practically give to manual labor its rightful honor? Is not their course of study such as to cause their alumni to consider themselves called to the higher stations in life, as the *educated few*, and to *look down* upon labor as the destiny of the *uneducated many*? Who goes to *college* to prepare himself for any of the departments of the ordinary business of life—for the purpose of applying the knowledge there acquired to the cultivation of the soil, to the mechanic arts, or to the business of trade and commerce? The college is the way to the "*learned professions*,' not the way to agricultural, mechanical, or commercial pursuits. Neither does the present plan in which our high schools and academies are conducted answer the object in view.

This is said, not in derogation of our regular Colleges and Universities, nor of our Common Schools and Academies, but in view of the well known fact that they do not make the system complete, they do not meet all the wants of the public, they leave neglected an intermediate space, which, could it be occupied by schools of the proper character, would secure the permanency of our free institutions, diffuse general intelligence and virture through the mass of the community, and augment the real safety, prosperity and wealth of the State, more than any other single agency that has ever yet been put in requisition

Hence, intelligent and practical philanthopists, men of correct and comprehensive views, are more and more disposed to repudiate the doctrine that science is only for the *educated few*, and labor only for the *ignorant many*, and to advocate the establishment of a high order of schools which shall have a direct tendency to form a sacred and permanent union between science and labor, and elevate them together to the honorable position the Creator designed them to occupy. Such men have been led to deprecate the fact, that while AGRICULTURE holds the most important place in all the departments of labor, as the first source of temporal prosperity and wealth, and the strength of the State, and the one in which the largest portion of the community must be engaged no important state or national provision or effort has been made for its advancement. Vast sums have been expended to bring the aid of science to the military profession and the tactics of war. Institutions for the learned professions have received aid. But little has been done for the application of science to the calling of nature's noblemen, the tillers of the soil. It is said by some, that they need but little education; and this is too often believed by agriculturists themselves. "A farm can be cultivated well enough without learning." Is it so? Are there not many branches of science connected with agriculture?—Does it not indeed embrace the whole round of natural science?—Botany and vegetable physiology explain the essential elements upon which agriculture rests. Zoology and Entomology impart a knowledge of the structure, nature, and habits of animals, and of the numerous insects, embracing those which destroy grains and vegetables. Geology and Mineralogy impart useful knowledge to the agriculturist. And Agricultural Chemistry is a science of great importance to the skillful farmer, for his art, whether he be acquainted with the fact or not, is almost exclusively a chemical art. How much time, and labor, and money is wasted in learning by observation and experience some of the established facts of this science with their application, which might be saved if our farmers had acquired by study in early life a knowledge of those facts.

It is then an expensive mistake that a limited common school education is sufficient to enable Agriculturists and Artizans to conduct their business to the greatest advantage. It is a doctrine better suited to the Czar of Russia with his benighted serfs than to the free and independent farmers of Ohio. Will they rest satisfied with such a sentiment, and carry it out in practice? No. Neither will they wait for aid from the State. Feeling their necessities, and having the means in their own hands to supply them, they will go forward in the work. What has been already done for the establishment of the 'Farmers' College,' is a guaranty of the success of the enterprize.

There are hundreds of our thrifty farmers, and men in the various mechanical and business departments, who are no longer satisfied with the mere elements of an English education for their sons, and who wish to have them pursue some of the branches of natural science, with the aid of an apparatus for experiments, such as cannot be had even in our higher private or public academies generally. To these young men, destined as they are for the various laborious and business occupations, the long course of study of the dead languages, and of refined classical literature, in order to take the honors of the regular colleges and universities, and arranged as is known with a view to the learned professions, is not suited, and would be absolutely lost time and labor; while some of the natural sciences they desire and ought to pursue to a greater extent, and with more minuteness of detail, than is done in these institutions. Chemistry, for example, with its application to the analysis of soils, and manures, and the laws of vegetable life and peculiarities of different kinds of vegetation, &c., cannot but be exceedlingy valuable to the young agriculturist, especially in this day of advancement in practical agriculture. If the application of this branch of science had been well understood by the first cultivators of the fertile soil of the Miami Valley, the many '*worn out farms*' would now, instead of having been made sterile by bad management, pessess the luxuriance and freshness of the virgin soil. The same knowledge is alike indispensable to the miner, the worker in the various metals, and to others who follow mechanical trades; for however men engaged in these departments may profess to despise such knowledge, it is to men who have pursued and made practical these scientific investigations, that they owe the many improvements in their different departments of business; and it is also to men who have made these things matter of scientific study, and who are at the same time practical business men, we are to look in future for all great improvements and inventions for the advancement of agriculture and the other arts.

The practical surveyor, navigator, and engineer, require a much more extended practical application of Mathematical science, with the use of instruments, and exercises on the field, than can be given at our ordinary colleges, or comports with the object of those who pursue their education merely with a view to professional life. The farmer, mechanic, and tradesman need an education better suited to their calling than can be obtained in our institutions of learning as they are now conducted.

To furnish facilities for these numerous classes is the object of the Farmers' College. And no better evidence of the demand for such an institution, and the wisdom of its plan, need be given than the favor and patronage it has already received. * * * * * * *

This Institution, then, owes its origin to the actual wants of the public, and the great and increasing demand for just such a course of education as it proposes to give.

Its object, it will be seen, is to furnish those who have the active departments of life in view, a practical business education of a much higher order than can be obtained in our common schools and acadamies, and of a very different nature from that which is given in colleges.

E. M. GREGORY, *President of the Board of Directors of Farmers' College.*

CHARLES CHENEY, *Secretary.*

January, 1847.

Drilling Wheat in Pennsylvania.

During a recent travel through a considerable portion of York and Lancaster counties, in Pennsylvania, we noticed that most of the wheat had been drilled in by a machine. It looked beautiful in the rows, which appeared about three inches wide: and upon inquiry, we were told by some of the farmers with whom we conversed, *that they thought it stood the winter better*—was less subject to being winter killed—than wheat sown broadcast. On inquiring how this preservative effect was produced, they stated, that if the roots of the wheat in the drills were thrown out by the operations of freezing and thawing in the spring, that they fell in the small furrows between the rows, and that the earth from the slight hill made by the drill fell upon and covered up the roots, and thus prevented them from perishing. We mention this fact, and the opinions of the farmers, with a view of bringing the subject before our readers.

The machines, as we are told, would drill and cover 15 acres a day, and as no harrowing is needed, if the effect ascribed to them, of preventing winter killing, be correct these machines, which sell for from $75 to $100, must be worth all the money they cost. It is worthy of remark, that about 3-8th less seed answers when sown by drill, than by broadcast, an object of very great importance to the wheat grower—as this difference would operate as a saving of 75 bushels in a hundred acre field, and consequently save the cost of a machine in a single season, leaving the cost of ploughing in and harrowing the wheat as so much profit.

A number of the Drills made by Messrs. R. Sinclair, Jr., & Co., of this city, (Baltimore,) have been sold this fall, and we hope to have a report therefrom. Our friend G. T. Tilghman, of Talbot, has one of the latest improvement, and we shall be happy to hear from him as to its operation. The price of this Drill is only $25 to $30.—*Am. Farmer.*

Great Hill of Corn.

Brunswick, Medina Co., O., Dec. 19th, 1847.

MR. EDITOR:—The Canton Repository, Maumee Times. Cin. Christian Advocate, and Cleveland Herald are boasting of their "Mammoth Corn," "Great Ears," &c.

Now I think this county can boast of a Mammoth Hill of Large Ears, with only five plants, and two ears on each plant. Five of the ears contained two thousand four hundred and thirty four kernals, as follows: 960 936, 902, 846, and 790, (the small ears not counted) three of these were twenty rows and two eighteen.

This hill of corn had the same culture of the piece that gave me the first premium at our last county fair. These five ears had two quarts and three eights of shelled corn. Two hills were four feet apart each way; and as the estimate is usually made, the produce would be about one hundred and ninety bushels per acre. I believe if the small ears were estimated the crop would measure full two hundred bushels per acre.

Yours Respectfully,

LUTHER GERE.

LARGE APPLE TREE.—A writer in the Germantown O. Gazette, says there is on the farm of Adam Haine, near that place, an apple tree which is 41½ feet in height, the trunk is 10 feet in circumference, and measures 59 from one extremity of the branches to the other. This tree is 39 years of age.

There is on the same farm a willow, which is 10½ feet in circumference, 64 feet in height, and 64 feet from one extremity to the other. The age of this tree is about 20 years.

Good intentions are at least the seeds of good actions, and it is every man's duty to sow them.

OHIO CULTIVATOR.

COLUMBUS, OHIO, DECEMBER 15, 1847

THE LAST TIME!—Once more we ask our friends to send in their names and subscriptions *promptly* for the new volume; so that their names may at once be entered on our new subscription list, and we may be able to judge how large an edition to print for the new year.

THE INDEX which accompanies this number will be found very complete. The printing of it has caused two or three days delay in sending off this number of the paper.

OUR SUCCESS, for the three years we have been engaged in this enterprise, has not been such as to place us beyond the need of the assistance of the friends of agriculture in the matter of obtaining subscriptions; and it is certain that much has need to be done in this way before the influence of the paper will be extensively felt throughout the length and breadth of this great State of Ohio. Let every one whose mind is awake to the great interest of agriculture, do what he can to awaken others, and ALL will soon be aroused.

A number of communications are on hand for our next. They are coming in fast now, along with new subscriptions.

LIVE STOCK IN OHIO.—We give in this number a corrected table showing the number of hogs in each county in this State. In our next we intend to give also the number of horses, mules, sheep, &c.

THE WEATHER for some weeks past has been remarkably rainy, with some snow within a few days. The roads are as bad as can well be.

Annual Report on Agriculture.

The second annual report of the Ohio State Board of Agriculture which will be presented to the Legislature the coming month, will we think be found highly valuable for its statistical information, and very instructive to farmers in relation to the causes of failure or injury sustained by certain crops in many portions of the State, hints on the best mode of culture &c. The report this year will be much fuller than the preceding one, in that it will contain county reports from nearly or quite all the counties of the State, Some of these contain information of much general interest. We shall give our readers an abstract of the report, soon after it is printed for the Legislature.

Sheep killed by Dogs.

As some of our sheep farming readers seem inclined to look to us for aid in obtaintng for them some kind of legislative protection against the grievous injuries they sustain from the loss of sheep by *Dogs*, we say to them, once more, send in your complaints and petitions to your members of the Legislature. State the facts to them, and urge them to devise and adopt some means of protection. We have done this for three years past, to the best of our ability, and we perceive some little improvement, we think in the mnids of the members in reference to the subject; but they must be urged to the work *by their constituents*, before anything will be done.

Several members of the present Legislature we know are sincerely desirous that something should be done for this purpose; bnt *how* to do it, so as to avoid clamor and opposition, is a question hard to determine. Imposing a tax on the owners of dogs appears like a rational way of curtailing the mischief; but this is liable to many objections, and would be difficult in many cases to carry out in practice, even if a law were obtained for the purpose; and the plan seems so obnoxious to a majority of the members that it is not probable that a bill for the purpose would pass, even though it should apply only to some of the greatest wool growing counties.

In view of this fact, we suggest whether it would not be something gained, if a law were to be passed making it lawful to kill any dogs found at large off the premises of, and unaccompanied by the owner, except on the public highway, or in actual pursuit of wild game. We do not know how much benefit such a law would prove; but we think that if we were a sheep farmer we should make it of some benefit to us.

Ohio State Board of Agriculture.

ANNUAL MEETING, AT COLUMBUS, DECEMBER 8TH, 1847.—*Present*—Allen Trimble, A. E Strickle, M. L. Sullivant, Samuel Medary and M. B. Bateham. The president, ALLEN TRIMBLE, in the chair.

On request being made by the president for delegates from the counties to hand in their names, with reports from their several societies, the following gentlemen appeared as delegates, most of whom handed in reports, (many other reports were received by mail.)

JOSEPH TRUESDALE,	of	Mahoning co.
NATHAN P. JOHNSTON,	"	Lorain, "
M. GASTON,	"	Guernsey, "
J. G. GEST,	"	Greene, "
H. G. BLAKE,	"	Medina, "
THEO. BRECK,	"	Cuyahoga, "
JOSHUA UDY,	"	Union, "
ABEL KIMBALL	"	Lake, "
A. H LEWIS,	"	Portage, "
J. F. BEAVER,	"	Trumbull, "
MILLER PENNINGTON	"	Belmont, "
A. S. B. CULBERTSON,	"	Muskingum "
JONATHAN SMITH,	"	Licking, "
G. W. BARKER,	"	Washington "

The following resolution was offered by Mr. Strickle, and after considerable discussion was unanimously adopted:

Resolved, That the Board memoralize the present Legislature so to amend the 2d section of the act pssed last winter "to create a permanent Agricultural Fund for the State of Ohio" as to require incorporated towns and cities of this state to pay one half of the Money, received by them for licenses issued to persons exhibiting public shows, to their county treasurer for the benefit of the Agricultural Fund provided for in said act.

(In the discussion had on this resolution, it was shown that the act of last winter was rendered almost wholly useless, by the circumstance that very few if any licenses for public shows were granted by county auditors; and therefore an amendment of the kind proposed was necessary in order for the Board to realize a fund as was intended. It was also stated that nothing had as yet been discovered in the matter of "escheated lands," likely to be of any avail to the Board.)

Mr. Strickle also offered the following resolution, which was passed after discussion:

Resolved, That the Board memoralize the present Legislature to authorize the officers of the Board to pay the actual expenses of the members in attending meetings of the Board, out of any funds in their hands; provided that no payment shall be made for the expenses of attending more than three meetings in any one year.

The following resolution was offered by Mr. Trimble, and adopted after discussion:

Resolved, That it shall be the duty of the Board to appoint District Fairs annually; the number time and place to be agreed upon by the Board; and that one or two days immediately succeeding the day or days of the Fair be set apart for the sale of stock, agricultural implements and such other articles as may be exhibited or presented for sale—and that notice of such time and place of sale be given by the Board along with the notice of the Fair.

On motion of Mr. Gest the following resolution was adopted:

Resolved, That Agricultural societies in counties where District Fairs shall be held, be authorized at their discretion to award premiums at the District Fair, for any articles produced or manufactured within the district in which the Fair is held.

On motion of Mr. Strickle (seconded by Mr. Gest,) the following resolution was adopted:

Resolved, That the Board now appoint a meeting of the Board at the town of Xenia in Greene county, on the 20th day of September, 1848; at which time and place the Board request the citizens of that District to get up a District Fair, and that in due time the president give notice accordingly.

The society presented sundry accounts for printing circulars, postage, &c., amounting to $19,50 which were allowed, and ordered to be paid.

The treasurer reported amount of expenditures during the present year as $92,70:—received from State appro-

priation $200; leaving balance on hand of $117,30.

The president reminded the delegates from counties, that in accordance with the law, it was their duty at this meeting to elect five persons as members of the Board to serve two years, in place of Messrs Strickle, Lapham, Medary, Sullivant and Trimble, whose term of service had now expired.

Whereupon a meeting of the Delegates was held, J. F. Beaver being appointed to the chair, and A. H. Lewis Srcretary; and after consultation, on motion of Mr. Breck it was unanimously

Resolved, That the old members whose term of service expire this day, be re-elected members of the Ohio State Board of Agriculture, for the term of two years.

The Board then proceeded to an election of officers for the ensuing year; which resulted as follows:

Allen Trimble, *President*,
M. L. Sullivant, *Treasurer*.
M. B. Bateham, *Secretary*.

On motion, adjourned.

☞ The President and Secretary will prepare the annual report of the Board for the General Assembly, as soon as the requisite information has been obtained from all the counties. Persons to whom circulars have been addressed, and who have not returned answers, are requested to make returns forthwith to the Secretary, or their counties will be omitted in the Report.

LADIES' DEPARTMENT.

☞ Several articles designed for our Ladies' Department are unavoidably deferred. Among them is a reply to "Uncle Jonathan," on "Women Milking." We resign this department to the care of our assistant, from this time onward; and have no doubt it will be much improved thereby.

The following lines from a London paper, are in keeping with the progressive spirit of the age; and not inappropriate for the close of the year.

Move On.

The march of life should never stay—
All things should onward tend;
Man should not clog progressions way,
But strive to move and mend.
The waters move in depths of ocean,
The streams along the dales,
And rivulets with onward motion,
Through sweet and verdant vales
Move on!

The clouds move gently through the sky,
The earth rolls ever on;
Time swiftly in its course runs by,
And years pass, one by one.
Men, too, should strive to follow them,
In this their onward way,
Permitting naught the tide to stem,
But ever, day by day.
Move on!

Men may be wiser, if they strive—
More virtuous, if they will;
And who, within this world, would thrive,
Must aim at higher still!
Let bigots stand by doctrines old,
The wise will pass them by;
Weak minds may cling with subtle hold,
But strong ones valiantly,
Move on!

Like waters rolling on the ocean,
Down mountains piled on high—
Like clouds forever in commotion,
That move across the sky—
Will we forever onward press,
Thus fetterless and free;
And deeming virtue happiness,
Our watchword ever be,
Move on!

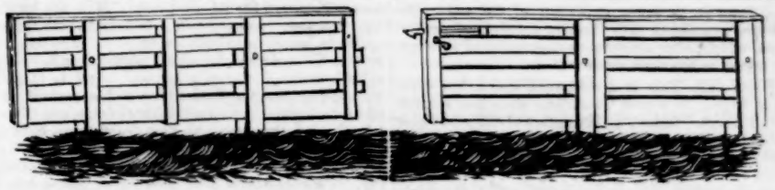
New mode of making Coffee.

Mr. Bateham—Please give the following receipt a place in the ladies' depertment of the Cultivator:

Receipt for making Coffee.—Take one pint of Orleans molasses, boil it in an iron pot until it becomes quite thick and the sweet taste burnt; then take it off the fire and pour in water gradually and stir it till it becomes a little thinner than the molasses was at first; then to one spoonful of this burnt molasses add two spoonfulls of ground coffee, boil as usual and clarify with the white of an egg.

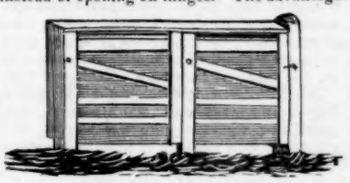
Mary Jane.

St. Clairsville, O., Dec. 1847.



Baker's Patent Premium Gate.

The annexed engraving represents a mode of constructing Gates, for which a premium was awarded by the New York State Agricultural Society in 1846. An agent for this State, (as will be seen on our last page,) is now in this city, and has erected a set of these Gates in front of the Asylum for the Blind. It will be seen that the chief peculiarity of these Gates is their self balancing principle, and being made to slide on rollers along the line of the fence, instead of opening on hinges. The advantages claimed for this kind of Gate, are,



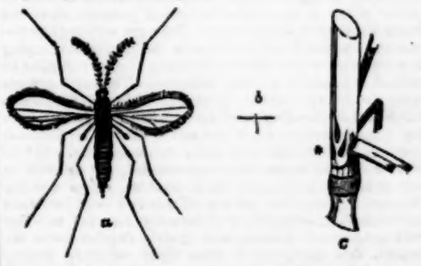
Wicket or Garden Gate.

1st: Its self-balancing principle obviates all difficulty of sagging 2d: its simplicity of structure renders it easy of manufacture. 3d: Its durability is secured by bearing its entire weight on the rollers, and only in a perpendicular direction. 4th: A team may approach it on either side without backing up to open it. 5th: It slides parallel with the fence, which renders it out of the way when open. 6th: Time and labor saved in opening and shutting. 7th: The difficulty of swinging against wagons while passing through is obviated. 8th: $1, or more is actually saved on each Gate by obviating the expense of iron hinges and fastenings, as the expense of the rollers will not exceed 25 cents.

Essay on the Hessian Fly.

By the answers from the different counties, to the circular of the State Board of Agriculture, we learn that in nearly all parts of the State the wheat crop of the past season was a good deal injured by the ravages of the Fly. We learn also from members of the Legislature and others, that the crop now on the ground has suffered much from the same cause during the fall; so that considerable anxiety is felt among farmers generally in regard to the nature and habits of the insect, and the means of avoiding or lessening its ravages.

We find too, that notwithstanding all that has been published in this and other journals, in regard to the habits and history of the Hessian fly, many farmers are almost entirely ignorant on the subject, and have embraced very erroneous notions respecting it. We have on several former occasions (as will be seen by referring to the index of this and previous volumes,) given illustrations and descriptions of the different kinds of wheat insects, tracing them through their several changes. We have before referred to an essay by Dr. Fitch, published in the American Journal of Agriculture and Science, and in the transactions of the N. Y. State Agricultural society for 1846. This essay is too lengthy for our columns, and much of it being merely historical would not be of material benefit. We extract from that essay a brief summary of the habits of the insect, and a variety of suggestions— some of them quite valuable—in relation to the means of preventing its ravages. (We shall recur to the subject again before long:)



a Hessian fly (female) magnified,—the cross lines *b* show the *real* length of body and breadth of wings; *c* a joint of wheat stalk with the surrounding sheath broken down, showing the *pupa* or larva case of the insect, commonly called the "flax seed state" at*

The Hessian fly (*Cecidomyia destructor* of Say,) is a European insect, and has been detected in Germany, France, Switzerland and Italy, where it at times commits severe depredations upon the wheat crops. Its ravages are alluded to so far back as the year 1732. It was brought to this country, probably in some straw used in packages by the Hessian soldiers, who landed on Staten and the west end of Long Island, August, 1776, but did not become so muitiplied as to severely injure the crops in that neighborhood until 1779. From thence as a central point, it gradually extended over the country in all directions, advancing at the rate of from ten to twenty miles a year. Most of the wheat crops were wholly destroyed by it within a year or two of its first arrival at a given place, and its depredations commonly continued for several years, when they would nearly or quite cease; its parasitic insect enemies probably increasing to such an extent as to almost exterminate it. It is frequently re-appearing in excessive numbers in one and another district of our country, and in addition to wheat, injures also barley and rye.

There are two generations of this insect annually.—The eggs resemble minute reddish grains, and are laid in the creases of the upper surface of the leaf, when the wheat is but a few inches high, mostly in the month of September. These hatch in about a week, and the worm crawls down the sheath of the leaf to its base, just below the surface of the ground, where it remains, subsisting upon the juices of the plant, without wounding it, but causing it to turn yellow and die. It is a small white maggot, and attains its growth in about six weeks. It then changes to a flax seed like body, within which the worm becomes a pupa the following spring, and from this the fly is evolved in ten or twelve days. The fly closely resembles a musquitoe in its appearance, but is a third smaller, and has no bill for sucking blood; it is black, the joints of its body being slightly marked with reddish. It appears early in May, lays its eggs for another generation and soon perishes. The worms from these eggs nestle at the lower joints of the stalks, weakening them and causing them to bend and fall down from the weight of the head, so that towards harvest, an infested field looks as though cattle had passed through it.

Wheat can scarcely be grown except upon a fertile soil in those districts where this insect is abundant. The sowing should be deferred until about the last of September, the season then being past, when the fly usually deposites its eggs. If at any time in autumn the eggs of the insect are observed to be profusely deposited upon the leaves, the crop should be speedily grazed down by sheep and other stock, or if this cannot be done, a heavy roller should be passed over it, that as many of the eggs as possible may be crushed or dislodged thereby. One or the other of the same measures should also be resorted to in the spring, if the same contingency occurs; or if the worms are at a later date discovered to be numerous at the first and second joints of the young stalks, the experiment may be tried of mowing as close down as possible, the most infested portion of the field. Where the soil is of but medium fertility, a resort to some of the hardier varieties of wheat, which are known to be fly proof, may be advisable.

Remedies.—"An *effectual remedy*" against the Hessian fly, which has been so much inquired after and talked about, and by which term we suppose is meant some *specific* which will infalliably destroy or drive away the insect, or protect the crop from its ravages, never has been and probably never will be discovered. In truth, we regard the idea that a remedy of this character exists, as being equally absurd with a belief in the Philosopher's stone. There is probably no such thing as sure and infallible specifics against any of the insects which invade our crops, any more than there is against those diseases which attack our persons. Still, believing this, we also believe that there is no noxious insect but what, when we closely study into its habits we can invariably discover some one or more ways of opposing it, by which we can with certainty to a great extent, if not entirely, shield ourselves against its depredations. Thus it is with the insect under consideration. There is no remedy with which we can "doctor" it away—no charm with which we can say to it, "vanish presto;" yet there are measures, which employed, will guaranty fair crops, when if not resorted to, no wheat will be gathered. Of this fact we are all well convinced, both from personal observations, and the concurrent testimony of a cloud of witnesses.

A consideration of the various remedial measures which have been proposed, is therefore a subject of sur-

passing interest to every cultivator of the soil. We shall hence proceed to view them in detail, treating first of those, which, after a careful consideration of this topic, we regard as the most important.

1. *A rich soil*—This is a safeguard which has been strongly urged by almost every one who has written upon this insect. Indeed an inspection of different fields of wheat in a district where this enemy is present, cannot fail to impress upon the observer the utility and importance of this requisite. Other things being equal the crops on impoverished lands invariably suffer the most. Hence those on sandy soils, which retain the strength of fertilizing agents less than other soils, have in numerous instances been remarked as most severely devastated. A striking contrast, even, may very often be perceived in different parts of the same field. The summits of the knolls and ridges, situations where the soil is most meagre, almost invariably show the greatest amount of damage; whilst the intervening hollows, to which the fertilizing matters are washed from the surrounding acclivities, sustain a comparatively slight if at all sensible injury.—Yet the latter situations are the very ones which insects of this family are known to be most prone to frequent, being more low, shady and damp. There can be no doubt, therefore, but the fly is as numerous in the hollows of a grain field, as upon its ridges; and that it is only in consequence of the greater fertility of the former situations, that the crop there, is enabled so effectually to withstand this enemy. Indeed, the farmers themselves, in districts where the fly has prevailed, have all learned from experience, that it is only upon fertile lands that it will do to sow their wheat. Hence Ezra L'Hommedieu long ago intimated that the Hessian fly on Long Island, by driving the farmers to manure their lands, instead of a curse had actually been *a blessing*.—He says, "the land in Suffolk county and other parts of Long Island, was easily tilled, and by continual cropping with wheat was so reduced, that on an average not more than five or six bushels was raised to the acre.—This mode of husbandry was still pursued, and although the land was gradually impoverished, the farmer found the crop, although small, more than would pay for his labor and expense. The Hessian fly put an end to this kind of husbandry, and in that respect has proved a blessing instead of a curse; no other way being found to prevent the injury done by this insect. but by highly manuring the land." (*Trans. N. Y. Soc. for Prom. of Agric., &c.*, i. 57.) A writer in Delaware also states that the universal predilection there, was to have *large* rather than *rich* fields of wheat; that this insect was counteracting this, by compelling them to cultivate less land, in order to cultivate it well; and that its tendency consequently was, to make our population more dense, by making it the interests of every man to own no more land than what he could manure highly and till carefully, (*Carey's Museum*, xi. 301.) We thus have, even in the devastations committed by this destroyer evident indications of that

"All partial evil, universal good."

which is every where manifest in the works of the Supreme Architect of nature. It is doubtless the additional strength and vigor enjoyed by plants growing upon a rich soil, which enables them to withstand the depredations of this insect. Those shoots which are first sent up from a kernel of seed, are the ones which are commonly attacked and destroyed, and in an impoverished soil the seed itself thereupon perishes; whilst in a rich soil, its vitality continues, and other shoots are sent forth by it, which grow vigorously and unmolested. In the spring attack also, the weak and slender stalks growing upon a poor soil, are much more liable to become broken and fail of maturing any grain, than the large, robust, well nourished stalks of a fertile soil. Hence a rich soil enables a plant to elaborate a sufficient amount of fluids, for its own sustenance, in addition to that which is abstracted from it by a few of these insects. We therefore regard this as a primary and indispensable measure, and one which must accompany others next to be considered, in order to their full success.

2. *Late Sowing*.—This measure also comes to us sanctioned by the almost unanimous recommendations of writers; and we regard it as one of the most efficient, as it certainly is the most facile of any that can be resorted to. It is universally admitted that it is the earliest sowed fields that are always the most infested; and we cannot but suspect that the present visit of this enemy to this section of country, after so long an absence, has been invited by the general practice of early sowing, resorted to by our farmers under the probably incorrect idea of hereby escaping from the depredations of the wheat-fly. Just before harvest, our attention was directed to two contiguous fields of wheat in the town of Stillwater, one of which was seriously injured by the Hessian fly, whilst in the other not a solitary straw broken by the insect could be found. The only cause to which this striking contrast could be imputed, was, that the latter field had been sowed a fortnight later than the former one. Analogous instances have often occurred to the notice of every observing person living in districts where the fly has been present. Such cases, however, must not be deemed to prove so much as they at first view appear to. It is not probable that the fly had entirely ceased from depositing its eggs before the second of the above fields had become forward enough for its purposes. Had the sowing of the first field been delayed a fortnight; both fields, it is probable, would have suffered equally. The whole injury that fell upon the first field, would thus have been divided between it and its neighbor. And so in all cases, we presume that the field which is the earliest, attracts all of the insects in its immediate vicinity, and these finding all the accommodations they desire there, have no occasion for going elsewhere. For a more extended elucidation of this topic, see the *American Farmer*, vol. ii. p. 167. Two objections have been urged against late sowing; the liability of the young plants to "winter kill," and of the crop when near maturity to be attacked by "the rust." There is little danger of the first of these casualties, we suppose, upon porous soils, it being a disaster almost peculiar to stiff clays, which retain a large amount of moisture at their surface. In such soils, therefore, it may be advisable to resort to the plan employed in some parts of England, namely, sowing on a newly turned over sward, the grass roots in which serve to bind the soil together in such a manner as to retard its "heaving" by the frost. (*Fessenden's Complete Farmer*, p. 114.) This disaster, moreover, is guarded against in a great degree by sowing only upon a fertile soil, whereby a quick and vigorous growth is secured, and the young plants are thus enabled to acquire sufficient strength of root to withstand the winter's frosts. The same expedient, also, by insuring a rapid growth and an early maturity of the crop is the best safeguard against the rust, a disaster to which late crops only are ordinarily liable. Upon rich land, therefore, scarcely any scruples need be entertained with regard to late sowing. If a neighboring field has already been so wet and the season is favorable for its vegetation, it will be safe to commit the seed to the ground within a week or two thereafter, as all the insects in the vicinity, unless they are present in immense swarms, will be attracted to and remain in the earlier crop. About the last of September is probably as late as it will be judicious to defer sowing wheat in this climate; and in most seasons this will secure it from any serious attack of the fly. Although when it comes forward, the season for the deposition of the eggs of the fly may not in some years be entirely over, it must be rare that a number of these sufficiently large to be materially injurious, will be laid; but should that at any time be the case, other remedies still can thereupon be resorted to, to counteract the evil.

3. *Grazing*.—This measure is alluded to as worthy of attention, in the first account of this insect published in this country, where the fact is stated, that "by feeding the crop very close in the winter and spring, if the land is rich it will again spring up, and the worms do not much injure the second growth." It is plain that a close fed crop will furnish few leaves for the fly to place its eggs upon, and these leaves will be commonly consumed before the eggs are hatched. Gen. Cocke directed public attention strongly to this measure in 1817, and six years subsequently states that full experience had amply confirmed him in his estimate of its efficacy.—(*American Farmer*, v. 241.) If in autumn it be omitted till after the eggs are hatched, and the worms have descended to the root, it can obviously be of little or no service.—When, therefore, an attack of the fly is feared, as the exact time of the deposition of the eggs is somewhat variable in different seasons, it will be necessary to watch the young wheat, as soon as two or three blades from each root appear; and if the fly is discovered profusely depositing its eggs, sheep or other stock should at once be turned upon it, in such numbers, if possible, as to eat down the crop in a few days. The eggs will thus be destroyed, and the favorite nidus of the fly for continuing this deposite, will be effectually broken up; it will thus be compelled to resort to other quarters. The same process may also be repeated in the spring, if found necessary. No injury to the crop need be apprehended from its being thus grazed down, if the soil is of due fertility—it soon and entirely recovers from this operation. Moreover, if the soil is poor and impoverished, the fly will be sure to injure it far more than what the sheep will do. We cannot, therefore, but regard this as a most judicious and important measure, if seasonably resorted to. The intelligent wool grower, will scarcely require to be informed, that sheep taken from their ordinary walks, should at first remain upon the rank feed of the wheat field but an hour or two of a day.

4. *The roller*.—Passing over the grain with a heavy roller, is a remedy in commendation of which several writers concur, supposing that many of the eggs upon the leaves will thus be crushed. Col. Morgan was in the habit of both rolling and grazing his wheat fields, before the Hessian fly appeared in his vicinity; and as his crops were much less injured than those of his immediate neighbors, he attributes his escape to these causes. If there be any foundation for Mr. Smeltzer's opinion, that certain varieties of wheat are fly proof, because their leaves grow horizontally instead of inclining upwards, assuredly by a repeated use of the roller every kind of wheat may be made fly proof. No doubt this measure is a judicious one, particularly on fields that are so smooth and free from stones that almost every plant will receive a firm pressure by the operation. If resorted to, it should obviously be done at those times when the eggs are newly laid upon the leaves. After all, is not the efficacy of the roller, at least in part, owing to its loosening and dislodging the eggs from their position and causing them to drop to the ground, where the worm, hatching, is unable to find its way into the sheath of the young plant? This point merits investigation; for if there is any truth in the suggestion, sweeping the plants with a broom or some similar implement, will probably brush off much greater numbers of the eggs than passing a roller over them can do.

5. *Mowing*,—Mr. Goodhue, of Lancaster, Wisconsin, in a communication in the fifth volume of the *Prairie Farmer*, suggests that the larvæ concealed within the bases of the leaves, may be destroyed by mowing the wheat, and feeding it to the stock. We deem this proposal a valuable one for exterminating the second or spring brood from a wheat field. In these cases where the worms are discovered in the month of May, to be fearfully numerous at the joints of the young stalks, there can be little doubt but that on smooth grounds the scythe may be so used as to take off almost every spear below where the larvæ are lodged; and that thus a second growth of stalks will be produced; quite free from these depredators. The following facts incline me to believe that on a fertile soil, wheat may be thus mowed, with little if any eventful injury to the crop. Portions of a field of my own, the past season grew so rank, that deeming it would become lodged and mildewed, by way of experiment a space in it was mowed down after the plants was two feet in height, and another after the heads had began to put forth. Though not so early in ripening, the appearance of these two patches at harvest, indicated, so far as a single experiment could do, that wheat might be mowed at the former period without any diminution of its productiveness, whilst at the latter, both the straw and heads would be of a more slender and feeble growth.

6. *Fly proof wheats*.—That there are any kinds of wheat which are perfectly "fly proof," to use a common and expressive term, as has been sometimes stated, we wholly disbelieve. At times when the fly is so excessively numerous as to attack barley and rye, it is not probable that any of the cultivated species of the genus *Triticum* can entirely withstand its attacks. But that there are kinds of this grain, that escape with little injury, when other kinds are almost wholly destroyed, is a well established fact. What the peculiar properties possessed by these varietles are, that renders them thus singularly invulnerable, has never been investigated with that degree of accuracy, which so interesting and important a subject well merits. Mr. Worth supposes that fly proof wheats must have smooth leaves, affording no grooved or channelled surface to hold the eggs of the fly. (*Amer. Far.* ii. 181.) Mr. Smeltzer thinks the leaves of such wheat stand out horizontally from the stem, or incline downwards, instead of being erect, and that the egg is thus washed to the ground by rains. (*Patent Off. Report*, 1844, p. 434.) The Hon. J. Taliaferro regards the immunity as proceeding from the strength and vigor of the roots whereby the plant continues to grow, notwithstanding the exhaustion of its juice by the worm. (*Patent Off. Report*, 1842, App. No. 1.) This theory appears to us more plausible and more in accordance with the facts recorded with regard to these varieties, than any other which has been proposed. Other opinions less specific, might be alluded to, but all of them are opinions merely, as we discover no evidence of their having been substantiated by a dilligent investigation of this point. The reputation of the *Underhill wheat* has already been sufficiently shown. This was a bearded white chaff, with a plump yellow berry, requiring to be thoroughly dried before grinding, and then producing flour in quantity and quality equally to the best of the other varieties. Its fly proof quality was by many supposed to be owing to the hardness or solidity of its straw. The fly freely deposited its eggs upon this wheat, but it was seldom, if ever, materially injured by it. The Spelter wheat (*Triticum spelta*, Linn.,) was also long since remarked as never having been injured by the fly. This is so very inferior a species, that it is but little in use in this country, and only cultivated because it will grow well on the poorest soils, whether the season be wet or dry, and is free from all maladies. It has a long, slender, beardless head, with the chaff so firmly attached to the grain, that it can only be separated by passing through a mill, and yields a yellowish flour. It is more highly esteemed in Germany than in any other country, being there preferred even to all other kinds of wheat. The *China wheat*, said originally to have been found in a crate of imported China ware branches and grows very much like rye, ripens at least a week earlier than other varieties, yields largely, (forty or fifty bushels per acre it is said, and has never been known to be injured by the fly. (*Pat. Off. Report*, 1844, p. 43.) The *Mediterranean wheat*, in such high repute for its fly proof and other qualities, was introduced into Maryland in 1837. It is a slight red chaff, having a long stiff beard, a long, red, and very flinty berry, and ripens about ten days earlier than other varieties. Mr. Garnett, in his Fredericksburg address, considers its only title to be designated as fly proof, is, that it recovers better than other wheat from the depredations of this insect. In the *South. Planter*, (vol. ii. p. 243,) it is said to be a dark coarse grain, much like rye, and yielding such indifferent flour, that some of the merchants had announced they would buy no more of it. Its straw too, when grown upon a

fertile soil is said to be too weak to support the head. Mr. R. L. Wright, in the *American Agriculturist* of 1843, and others, states that it improves by cultivation. As it becomes fully acclimated, it will, we doubt not, lose its most objectionable traits; but will it not with them also lose its fly proof and other qualities, which are its main recommendations at present? On the whole, this variety is so very prolific, and so exempt from all diseases, that we are not surprised at the marked favor it has received. It is admirably adapted for securing a premium in our agricultural societies, where, "the largest crop raised at the least expense" receives the prize; but its grower will be reluctant to inform his neighbors, that he sells it in market at six cents per bushel under the current price. In fine, we think this noted variety can never come into general favor in those districts where choicer kinds can be successfully cultivated. The *Etrurian wheat*, brought home by Com. Stewardt, so far as yet appears, possesses all the most valuable qualities, and none of the defects of the Mediterranean. This is a bald variety, having a strong and vigorous stalk, a beautiful long smooth head, yielding a round plump, white kernel, with a remarkably thin bran. It is very prolific, and quite as early as the Mediterranean, (Rev. D Zollickoffer and others in the *American Farmer*,) and has thus far resisted the attack of the fly. We are gravely told by an anonymous writer, that "this wheat was not, as its name would indicate, brought from the little Island of Etruria." In what creek this "little island" is situated, we have been unable to discover, but with such a decided negation, we are driven to the inference that the grain in question was derived from a territory which we *moderns* call Tuscany. The *White Flint wheat*, one of the choicest varieties of western New York, withstands the attack of the fly better than any of the other kinds there in use. For a full account of it, see Gen. Harmon's paper in the *Trans. N. Y. State Agric. Soc.*, 1843, p. 217. In conclusion of this branch of our subject, we would observe, that we should by no means be solicitous of procuring any variety of wheat, merely because of its fly proof qualities, believing as we do, that in all ordinary visitations of the fly, other measures are a sufficient safeguard. If vigor of root, firmness of stalk, and rapdiity of growth. are, as would appear, the points which renders the varieties fly proof, a fertile soil will certainly go far towards imparting to most other varieties the same quality.

7. *Steeps for the Seed.*—These have been recommended with a two-fold view. 1st. To destroy the eggs: decoction of elder, juice of elder, boiling water, &c. These assume the erroneous position that the eggs of the fly are deposited upon the grain; it is manifest therefore that they can be of no utility. 2. To insure a quick and vigorous growth of the young plant. Where sowing is deferred until late in the season, it may be judicious to resort to some measure of this kind to stimulate the seed to a more speedy and rapid germination and growth. In *Carey's Musgum*, (vol xii p. 182,) an experiment of a Poughkeepsie farmer is related, who had soaked his seed wheat in a solution of saltpetre, four ounces being dissolved in water sufficient to wet a bushel. After soaking twenty-four hours, it was spread out and dried twelve hours, and then sowed, so late as the first of November. Early in the following June, this crop is reported as being in advance of neighboring ones which had been sowed early. This experiment, and others of a similar character, strikingly indicates that it lies much within the compass of human instrumentality to accelerate the growth of vegetation, by measures of this kind.

8. *Oats a decoy.*—It has been recommended, to furnish a crop of young or of "volunteer" oats to the insect, on which to deposit its eggs; and when it has nearly or quite completed this operation, plowing the oats under, thus burying the eggs and larvæ, and then sowing the wheat upon their graves. To us, this appears only as "a tub to amuse the whale" or in other words, an admirable projects ror wheedling honest "Farmer John" into late sowing, upon an enriched well pulverized soil. We have no clear evidence that the fly will deposite its eggs upon oats. It certainly will not be inclined to do so if there is any young wheat, barley, or rye in the vicinity to whcih it can resort.

9. *Wheat as a decoy.*—The preceding measure suggests to us another, which is well worthy of the attention of the agriculturist. The facts recorded respecting this insect, clearly show that it is the earliest sowed and most forward fields of grain that are most infested. The fly is attracted to these fields, and finding a more luxuriant vegetation, and a more shady covert here than elsewhere, and meeting with all the accommodations which it desires, it here remains, even though adjoining fields separated only by an open fence, have come forward sufficiently to afford at least part of the brood, quarters equally as comfortable. To us it appears evident, from these premises, that if one or two acres across the middle of a large field be sowed with wheat about the middle of August, all the flies in the vicinity will be attracted to this point, and there retained, so that it will be perfectly safe to sow the remainder of the field by the middle of September. If the Hessian fly is common in the neighborhood, the early sowed strip will be badly infested. If so, let it be turned under by the plow, either after two or three severe frosts have rendered it certain that the season for depositing the eggs is fully past, or early in the following spring—resowing it with winter wheat in the former case, or with spring wheat in the latter. By this procedure all the larvæ will be buried and perish. Only in one contingency, as we can perceive, will this plan be inexpedient or liable to fail, namely, when the flies are present in such vast numbers, that the decoy thus prepared is inadequate fully to accommodate them. Upon this point, the amount of damage done at the preceding harvest, will enable the cultivator to judge with a considerable degree of cectainty. The advantages which this plan promises, are, that it draws all the insects of the neighborhood together, and destroys their entire progeny; it enables most of the grain to be sowed as early as is desirable: and finally, there will be no second or spring generation come forth in the field to attack any part of the crop. This measure therefore, sqould receive a fair trial from some intelligent wheat grower in a district suffering under this pest.

10. *Deeply covering the seed.*—From the letters of a King William County Farmer, and from the specimens furnished by him to Mr. Garnett, which are figured in the *American Farmer*, (vol. ii. p. 174, the following facts would seem to be conclusively established, to wit:—That when a kernel of wheat is buried to the depth of about three inches, it sends a single stem upwards, which, within an inch of the surface forms a crown, sending from that point a tuft of fibrous roots downwards, and a tuft of blades upwards; these become the main roots and stalks, if undisturbed. But if these be destroyed by the fly, a new set of shoots and roots start directly from the deep buried kernel, and these latter shoots are never attacked by the fly. A kernel but slightly covered, on the other haud, sends up its blades at once directly from the seed; if these be attacked therefore, the whole is destroyed. Such is a brief but plain statement, we believe of the argument of the King William Farmer. In other words, seeds slightly covered can send up but a single set of shoots, and being attacked by the fly, the whole perishes; but seed deeply buried can send up a double set of shoots; those first appearing are attacked and destroyed; those which thereupon start directly from the seed are never infested by the fly. Admitting the facts to be as set forth, it amounts to this, that by deeply covering, the same quantity of seed in reality produces two crops; one which is speedily harvested by the fly; and the other gathered at a later day by human hands. To this procedure we have two objections. By adopting it, you do nothing whatever towards destroying the insect or frustrating it in the least in its operations On the contrary you aim to provide food for it. You cherish it. You, in effect, say to it, "be fruitful, multiply, and replenish the earth," True, by giving it what it wants, it leaves us as much more. But it is rather humiliating to us "lords of creation" to rear crops "at the halves" and place ourselves in the ranks of mere tenants to so ignoble a landlord! Again, this measure only shields us against the autumnal attack. It does nothing against that of the following spring. Nay, by providing so well for the first generation, it tends to make the second generation more numerous, and the spring attack consequently more severe. Thus much upon the supposition that the facts are precisely as set forth by the King William Farmer. That he sincerely believed them to be correct, and that he was perfectly honest in the selection of the specimens which he fotwarded to Mr. Garnett, we do not in the least doubt. Indeed the encomium which Mr. G. has written upon the character of his friend, must forever place him above all suspicions of insincerity or of anything approaching to chicanery. But our own observations impress upon us strongly the conviction that he is in error in one most important point in his argument, namely, that seed slightly covered, dies whenever its blades are destroyed by the fly. It is only in an impoverishsd soil that it thus dies, in a rich soil, as has been already stated, its vitality continues, its roots are so well surrounded with nutriment that they readily sustain it, and its first shoots being destroyed, it sends up a second set which grow unharmed. It thus performs the same operation which the King William Farmer contends, it can only do when deeply buried. Our specimen, from which the drawing (fig. A,) was taken, plainly shows this fact. The illustration is an exact copy from nature, of two shoots which were separated from a tuft of similar ones, all growing from one shallow covered seed; and in every infested field which we have examined, myriads of similar specimens might have been gathered, whilst commonly only on knolls and other barren or dry parts of the fields were the plants found to be wholly destroyed, as they are represented in the figures of the *American Farmer*. A fertile soil therefore insures the same results which are claimed for a deep covering of the seed. In both cases, the shoots which first appear are destroyed; another set appear afterwards, which are unharmed—not because the seed is buried too deep for the worms to crawl down to it, as the King William Farmer seems to infer, but because there are no flies any longer abroad to deposite their eggs upon the leaves. The exact truth then, with regard to this matter, we are firmly persuaded is as follows. In a meagre soil, the seed will die, whether it be covered slightly or deeply. In a less impoverished soil, *if the weather be dry* in September as it frequently is, seed near the surface will often perish, when that which is deeply buried will survive. In a fertile soil the seed will survive, whether it be covered shallow or deep, That suits of specimens can therefore be eastly procured which will appear to demonstrate a state of things in every particular the very reverse of those figured in the *American Farmer*, scarcely admits of a doubt. Our conclusion then is, that the King William Farmer is measurably correct in his position, but by no means correct to the extent contended for. When the Hessian fly is present in any district, deeply covering the seed, especially if it be early sowed, will in most cases be an additional safeguard against its destruction. The measure is therefore good as a subordinate one, but it must fall far short of ranking as a primary one.

11. *Procuring seed from uninfested districts.* — This measure also, is based upon the erroneous supposition that the eggs are deposited upon the grain. It can consequently be of no utility whatever as a safeguard against the Hessian fly. The measure has been fairly tested in several instances without success.

12. *Sun-drying the seed.*—Mr. W. H. Hill, in the *Nashville Agriculturist* of 1842, states that for fifteen years his wheat crops had not been injured by the Hessian fly, whilst those of his neighbors had suffered more or less. This immunity he attributes to two cases; exposing his seed to the sun for two days previous to sowing it, and sowing none but the largest and fullest grains, the others being separated by a sieve. Doubtless stronger roots and a more vigorous growth is obtained by sowing large, plump seed. We think that effectually drying the seed in the sun can have but one effect, that of retarding its germination a short time—an end that may be equally as well attained, and with less trouble, by deferring the sowing until a somewhat later period.

13. *Drawing elder bushes over the young plants.*—We have here one of the fancies of a former day, it being supposed that elder possessed an odor or some more occult property, which rendered it peculiarly repulsive to insects. A trial of it against the Hessian fly, however, soon demonstrated that it possessed little or no virtue of that kind in reference to this insect. If any benefit ever resulted from it, it was probably only by dislodging and brushing off some of the eggs from the blades of the wheat.

14. *Sprinkling fine salt, ashes, or caustic lime over the young plants.*—The first of these measures was proposed, from its appearing at one time that wheat growing upon points of land exposed to the sea air was less injured than that growing back from the coast. Neither of these remedies, however, have been attended with success, in any case on record, and they probably are of no service whatever, except as they may slightly increase the fertility of some fields. There is no likelihood that the fly, its eggs, or larvæ can be materially discommoded by them.

15. *Burning and plowing up the wheat stubble.*—This measure was originnally proposed by Judge Havens, and has been unanimously approved of and strongly urged by several of the most intelligent writers since. Indeed, a slight examination can scarcely fail of impressing upon every one its utility, independent of the sanction of authority. Who ever will at, or soon after harvest, inspect the stubble of a field that has been badly infested by the Hessian fly, will find these insects in their seed state lying one, two, three or more, at the joints of perhaps half the straws of the field. What a trifling labor, or rather what a pastime will it now be to set fire to this dry stubble, and hereby inevitably consume countless thousands of these destroyers. This point appears so plainly evident, that no one, we think, will hesitate in pronouncing this remedy decidedly the most important and valuable of all. But a thought breaks in upon us, of such fearful import, that fancying we see the burning brand extended, in an instant more to send a sheet of vivid flame, leaping, hissing, and crackling over the fatal field, we involuntarily shout,

"Stop! or thy tread is on an empire's dust!"

Of a truth, what a short sighted mortal is man, and how often are the words of the poet verified, that "a little knowledge is a dangerous thing." Seeing his enemy chained to a stake, he exultingly rushes at once to fire the faggots, and lo, a dozen of his friends are immolated up on the same pyre! Is it not a fact, that whilst by this measure we consume the Hessian fly by hundreds, we inevitably destroy its mortal foes by thousands? And that the very means which we thus resort to for averting a future calamity are the surest means that could be devised for bringing that calamity upon us! If nine-tenths of every generation of the Hessian fly are destroyed by three or four othet insects, who can calculate the value of the services which these latter are yearly rendering us? And who, then, will be so inconsiderate and ruthless as to destroy *nine* of these useful parasites, in order to exterminate *one* Hessian fly! Yet this must, in most cases, be the result of burning the stubble of the wheat field. We commenced our account of this remedy impressed with a belief that it was the best that had ever been proposed; we close it, persuaded that it is the very worst.

ADVERTISEMENTS suited to the character of this paper will be inserted at the rate of 6 cents per line for the first, and 3 cents for each subsequent insertion.

☞ We now give a complete table of the number of hogs in each county of the State, from the returns to the Auditor of State.

Number of Hogs in Ohio--1846 and 1847.

A Table showing the number of Hogs in each county of the State, (6 months old and upwards on the 1st day of June,) for 1846 and 1847, as returned by the Assessors to the Auditor of State:

Counties.	in 1846.	in 1847.
Adams	21,133	27,789
Allen	11,744	13,646
Ashtabula	5,796	6,855
Ashland	17,341	20,443
Athens	11,957	13,410
Belmont	25,405	26,694
Brown	29,412	41,552
Butler	54,077	60,604
Carroll	12,533	14,901
Champaign	19,494	19,249
Clark	19,692	24,211
Clermont	31,659	40,207
Clinton	26,188	39,592
Columbiana	17,096	27,871
Coshocton	17,728	22,593
Crawford	15,099	19,086
Cuyahoga	7,048	8,884
Defiance	3,717	5, 85
Darke	22,28	30,287
Delaware	22,949	32,465
Erie	6,718	8,378
Fairfield,	30,214	37,588
Fayette	20,768	31,066
Franklin	33,568	46,914
Gallia	11,315	12,563
Geauga	4,425	5,634
Greene	25,769	33,203
Guernsey	23,863	27,744
Hamilton	31,494	38,275
Hancock	13,935	17,931
Hardin	7,062	8,682
Harrison	14,877	17,874
Henry	1,434	2,336
Highland	28,444	44,794
Hocking	8,255	11,811
Holmes	14,227	18,152
Huron	12,729	14,838
Jackson	10,532	14,716
Jefferson	17,071	18,775
Knox	19,340	24,192
Lake	4,069	4,571
Lawrence	10,020	9,878
Licking	26,893	31,543
Logan	14,414	20,082
Lorain	8,326	11,638
Lucas	7,155	9,580
Madison	15,355	23,775
Mahoning	10,937	12,035
Marion	18,025	23,414
Medina	9,428	11,083
Meigs	7,990	8,207
Mercer	10,114	12,873
Miami	22,075	23,941
Monroe	17,666	19,391
Montgomery	31,690	37,581
Morgan	19,298	20,553
Muskingum	30,76	31,832
Ottawa	3,470	3,734
Paulding	1,574	2,229
Perry	18,572	21,237
Pickaway	33,769	50,925
Pike	13,505	17,920
Portage	8,113	10,012
Preble	30,969	41,092
Putnam	7,815	11,021
Richland	23,772	26,765
Ross	46,868	70,351
Sandusky	11,553	13,819
Scioto	10,896	14,553
Seneca	21,020	24,925
Shelby	12,611	15,146
Stark	23,383	27,288
Summit	11,112	13,974
Trumbull	10,424	11,498
Tuscarawas	19,155	22,60
Union	11,735	18,063
Vanwert	3,426	5,111
Warren	36,144	40,228
Washington	12,448	13,523
Wayne	22,945	25,639
Williams	4,005	4,784
Wood	6,95	8,842
Wyandott	7,775	10,173
Total number in the State in 1846,		1,405,621
" " " " in 1847,		1,751,318
Increase,		351,697

About 25 per cent. or one fourth.

Effect of Draining and Sub-soiling wet Lands.

We have for years been endeavoring to impress our readers with the great benefit which would result to them in a pecuniary point of view, were they to under-drain their wet lands, or otherwise relieve them from their superabundance of water. We have always been of the opinion that many fields which are now intractable clays, and which yield stintingly, might, by this process, not only be transformed into good loamy soils, but be made to bear abundant crops of an improved quality. We are, therefore, gratified at being able to present the following brief paragraph from *the Mark Lane Express* before our patrons. Brief as it is, it embodies a series of facts which, to the reflecting agricultor, will present subjects for a volume of comments. And under the hope that it may set them to thinking, and that through their thoughts, they may be induced to act so as to improve their estates, we commend the article to their favorable consideration:

"The Mark Lane Express gives an account of the improvements made on the farm of Lord Stairs, in Wigtownshire. One part was drained, subsoiled, limed and thoroughly pulverized and then produced 40 bushels of wheat to the acre, where only 12 were raised before; the carrots, turnips, and mangelwurtzel on the land averaged 23 tons to the acre. A morass, a part of which had been cut over for peat for 30 years, was drained, pared, limed, burned, manured and ploughed and sown to oats. Crop, 40 bushels to the acre. Next year top dressed with gravel and sand, limed, manured, ploughed and two acres sowed to turnips, Hybred Dale's; some of them weighed 15 lbs. each. The crop was 40 tons per Scotch acre. [4 Scotch are 5 Ehglish.[Seven acres planted to potatoes produced 576 bushels per acre. Previous to improvement 16 acres of this land was barely sufficient to pasture two cows and their calves."

It will be seen that subsoil ploughing, in the cases stated, was combined with draining, and that the improvement produced in the productive capacity of the land was such as to excite universal surprise, inasmuch as previous to the application of draining and subsoiling, it produced about 12 bushels of wheat to the acre, and required 16 acres for the pasturage of two cows, while the same soil immediately subsequent yielded as stated above, 40 bushels of wheat, 23 tons of mangelwurtzel and 40 tons of turnips to the acre.

We do not entertain the slightest doubt that there are hundreds of thousands of Marsh lands in this country, which is susceptible of being drained and rendered dry, that might by similar process of melioration, be made equally productive, or, at all events converted into prolific sources of profit to their owners, as reclaimed marshes, when properly managed, are uniformly distinguished for their fertility.—*Am. Farmer.*

Ohio Tobacco Crop.—The quantity of tobacco raised in Ohio this season is supposed to be not over 6,00 or 8,000 hhds against 20,000 hhds last year. A good deal of last year's crop will be kept at home, on account of the break in the Pennsylvania canal, and will be sent to market the coming summer with the new.—*Balt. Paper.*

English News Markets, &c.

The Britannia brings English dates to Nov. 19th. The commercial distress continues with little abatement, and much suffering exists among the poor in Ireland and in some parts of England—the latter chiefly, owing to the stoppage of numerous manufactories.

The grain and flour markets are reported as more active and firm, though no material advance in prices, except of Indian corn, which has reached a high price, viz, 36s@39s per quarter. Flour sells at 29s@30s per bbl. Wheat 8s@9s per 70 lbs.

Provision market has improved, and prices tend upwards. Prices, mess pork, 62s@68s per bbl; beef 40@48s per bbl; lard 52@58s per 100 lbs.

The Markets.

Cincinnati, *Dec.* 13.—The river is over its banks and still rising, causing much apprehension of damage. The roads and canals are all much damaged by the heavy rain; so that the produce trade is much interrupted.

Hogs are all the go now—but prices rule too low for any excitement. Sales during the past week have been at 275@290 to $3 per 100 lbs. Beef Cattle $3@350 per 100 lbs net.

Of flour the receipts have been quite light, and the price is firm at $5. Wheat being 1@105. No change in other leading articles.

At Cleveland and other places in Northern Ohio there is nothing just now in farm produce, owing to the closing of Lake navigation, and the bad state of the roads. At Columbus it is just the same and a little *more so.*

New York, *Dec.* 13. (by Telegraph.)—Flour without change, and dull at 6,12½@625. Wheat 125@130 per bushel; Corn 75@78 cts. Pork is in better demand.

COLUMBUS PRODUCE MARKET.

Corrected for the Ohio Cultivator, Dec. 15.

GRAIN.				Honey, strained	12½	@ 14
Wheat, ℔ bu.,	90	@ 95		POULTRY.		
Indian corn,	17	@ 18		Turkeys, each,	37	@ 50
Oats,	17	@ 18		Geese, "	20	@
PROVISIONS.				Ducks, "	10	@ 12½
Flour, retail, bbl,	5.00	@ 5,25		Chickens, "	9	@ 10
" 100 lbs	2.50	@		SUNDRIES.		
" Buckwheat,	2,00	@		Apples, bu.	37	@ 40
Indian meal, bu	31	@ 37		" dried,	50	@
Hominy, quart,	3	@		Peaches, dried,	1,25	@ 1,50
Beef, hd qr.		@		Potatoes,	37	@ 40
" 100 lbs.,	3 50	@		Onions,	75	@ 1.00
" fore qr.,	3,00	@		White beans bu	1,00	@
Pork, mess, bbl.		@		Hay, ton,	4,00	@ 5,00
Hogs, ℔ 100 lbs,	3,00	@		Wood, hard c,rd	2.00	@ 2.50
Hams, country lb,	6	@ 7		Salt, bbl.,	2.25	@ 2,50
" city cured,	7	@ 8		SEEDS.		
Lard, lb., ret.,	8	@		Clover, bu.,	3.00	@
" in kegs or bls.		@		Timothy,	2.00	@
Butter, best rolls,	12½	@		Flax,	75	@
" common,	9	@ 10		ASHES		
" in kegs,	8	@		Pot, 100 lbs,	3.50	@ 4,00
Cheese,	6½	@ 7		Pearl,	4,00	@ 4,50
Eggs, dozen,	12½	@ 15		Wool, common,	18	@ 20
Maple sugar, lb.	7	@ 8		" half bl'd,	20	@ 23
" molasses, gal.				" full bl'd.		@
Honey comb, lb,	10	@ 12½				

BAKER'S PATENT PREMIUM GATE.

The Patentee of the Farm and Self Shutting Gate, (represented on another page of this paper,) residing at Western N. Y., would respectfully inform the agriculturists and others throughout the State of Ohio, that Geo. W. Humphrey is his legal and authorized agent to sell and vend the Right to use said Gates and will as soon as practicable make arrangements which will enable every agriculturist throughout the State to avail themselves of this valuable improvement.

The right of territory already disposed of in this State comprises the Conn. reserve and three counties South of said reserve, viz: Richland, Ashland and Licking the balance of the territory is for sale and will be sold at reasonable prices.

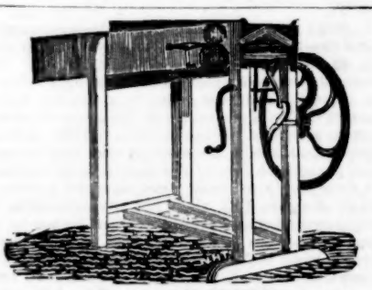
For Farm rights the following are the regular rates established; $2 for every farm not exceeding 100 acres and $1. for every additional 100 acres in the same farm.

Rights are granted only by deeds and all authorized to sell should have their titles recorded in the Patent office—this is done free of charge.

P. S. Those wishing to purchase the right of territory will please address Geo. W. Humphrey, at Painesville Lake co. Ohio.

Arnon Baker, Patentee.
Geo. W. Humphrey, Agent.

Columbus, Dec. 15, 1847.



STRAW CUTTERS.

Rich'S Patent Straw and Corn Stalk Cutter, for sale by
JOHN F. DAIR & CO.,
No. 33 and 35 Lower Market St.,
Cincinnati.

Nov. 16th, 1847.

CAPITOL HOUSE, COLUMBUS, O.

The subscriber has taken charge of, and opened the above named House, which is situated one square south of the State House, on High street, and in the centre of the business part of the city This is the site of the old and well known residence of Dr. L. Goodale, and has lately bhen added to and thoroughly repaired by him. The subscriber has taken especial pains to fit up this house in good style, with new furniture. The beds and bedding are all new, and the house well supplied with good hair mattresses.

No pains will be spared to render those who patronize this house, in every respect comfortable.

The Stabling of the house is, and will be kept in the best order, and the subscriber will have as good attendants as can be procured.

There is also a first-;ate Livery Stable on the premises, convenient for those who may wih accommodations of that kind.

Nov. 1.—3t. GEO. LEVERETT.

DUTCH BULBS AND OTHER FLOWER ROOTS.

I have received by late arrivals my annual importations of Bulbs tions and other flower roots, consisting of double and single Hyacynths, in great variety and of all colors, early and late double and single Tulips. Parrot Tulips in variety. Polyanthus Narcissus, Crown Imperials, Colchicums, Narcissus, Amaryllis, double and single Anemones Crocuses, Ixias, Martagons and Gladiolus, in great variety. Scarlet Martagon Billies, Iris Susiana Major, early Persian Iris, &c., &c., all of which have been imported direct from one of the most celebrated Florists in Harlem, Holland.

H. HUXLEY

Seed Store, East Fith St., between Main and Sycamore, Cincinnati, O.—3t.

TO FARMERS & COUNTRY MERCHANTS.

I will pay the highest market price for Brown Mustard Seed, at my Mustard Manufactory on Western Row, between Mason and Everett streets, Cincinnati—where will be found a constant supply of pure fine mustard, equal to any in the United States, and at reduced prices.

ROBERT SAVILL.

Cincinnati, Oct. 1, 1847.

THE

OHIO CULTIVATOR.

A SEMI-MONTHLY JOURNAL,

DEVOTED TO THE IMPROVEMENT OF

AGRICULTURE AND HORTICULTURE,

AND THE

PROMOTION OF DOMESTIC INDUSTRY.

"I know of no pursuit, in which more real and important service can be rendered in any country, than by improving its Agriculture."—Washington.

Vol. IV.----for 1848.

COLUMBUS, OHIO.
PUBLISHED BY M. B. BATEHAM,
EDITOR AND PROPRIETOR.